REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	Updated reference to specifications throughout and corrected vendor information.	6 December 2002	Kendall Cottongim

INACTIVE FOR NEW DESIGN

PREVIOUS CAGE CODE 14933 SUPERSEDED BY 037Z3.

THE ORIGINAL FIRST PAGE OF THIS DRAWING HAS BEEN REPLACED.

Prepared in accordance with ASME Y14.100 Selected item drawing

REV																					
PAGES																					
REV STATUS OF PAGES	**REV**		A	A	A	A	A	A													
	PAGES		1	2	3	4	5	6													

PMIC N/A	**PREPARED BY** Richard Hawkins	**DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH**
Original date of drawing August 2, 1985	**CHECKED BY** D. E Morgan	**TITLE** COIL, SOLENOID
	APPROVED BY Ivan R. Jones	
	SIZE A / **CODE IDENT. NO. 14933**	**DWG NO. 84184**
	REV A	**PAGE** 1 **OF** 6

AMSC N/A 5950-E015

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

1. SCOPE

1.1 Scope. This drawing describes the requirements for a coil as part of a solenoid.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as follows:

84184	-01
Drawing number	Dash number (see table II)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-55809 - Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic.

DEPARTMENT OF DEFENSE

MIL-W-76 - Wire and Cable, Hookup, Electrical, Insulated, General Specification for

MIL-I-631 - Insulation, Electrical, Synthetic-Resin Composition, Nonrigid.

MIL-PRF-15305 - Coil, Fixed and Variable, Radio Frequency, General Specification For.

MIL-DTL-16878 - Wire, Electrical, Insulated, General Specification For.

MIL-I-24768/1 - Insulation, Plastic, Laminated, Thermosetting, Glass-Cloth, Melamine Resin (GME).

MIL-I-24768/17 - Insulation, Plastic, Laminated, Thermosetting, Glass-Cloth, Silicone-Resin (GSC).

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-1916 - DOD Preferred Methods for Acceptance of Product.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents that are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

National Electrical Manufacturers Association (NEMA).

NEMA MW 1000 - Magnet Wire.

(Application for copies should be addressed to 1300 N. 17th Street, Suite 1847, Rosslyn, VA 22209.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Interface and physical dimension. The coil shall meet the interfaced physical dimensions as specified in MIL-PRF-15305 and herein (see figures 1 and 2).

3.1.1 Rated voltage. The rated voltage shall be 335 volts dc.

3.1.2 DC resistance. The dc resistance shall be 26.2 ohms ±2.5 percent.

3.1.3 Insulation resistance. The insulation resistance shall be 500 megohms minimum in accordance with MIL-PRF-15305.

3.1.4 Dielectric withstanding voltage. When tested as specified in MIL-PRF-15305, there shall be no evidence of damage, arcing, breakdown, or leakage current greater than 0.5 miliamperes.

3.1.4.1 At sea level. With 1,670 volts rms applied in accordance with MIL-PRF-15305.

3.1.4.2 At reduced barometric. With 350 ±10 volts rms applied in accordance with MIL-PRF-15305.

3.2 Design and construction.

3.2.1 Coil form. The coil form shall be in accordance with MIL-I-24768/1, MIL-I-24768/17, or equivalent and similar to figure 1.

3.2.2 Magnet wire. Magnet wire shall be in accordance with (NEMA) MW 1000, AWG No. 23 or equivalent.

3.2.3 Turns. There shall be 1,710 turns of magnet wire.

3.2.4 Lead wires. Lead wires shall be in accordance with MIL-W-76 or MIL-DTL-16878, AWG No. 18, 16 strand, 600 V, 105°C or equivalent. .375 ±.025 inch at the end of both lead wires shall be stripped and tined.

3.2.5 Insulating tape. Insulating tape shall be in accordance with MIL-I-631, A-A-55809, or equivalent.

3.2.6 Coil. The coil shall be evenly wound and insulated to meet the requirements specified herein. The coil leads shall not be internally grounded. The coil shall be suitably taped to prevent damage under prolonged exposure to humidity and salt-fog environmental conditions.

3.2.7 Dimensions. Dimensions of the finished coil shall be in accordance with figure 2.

3.2.8 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

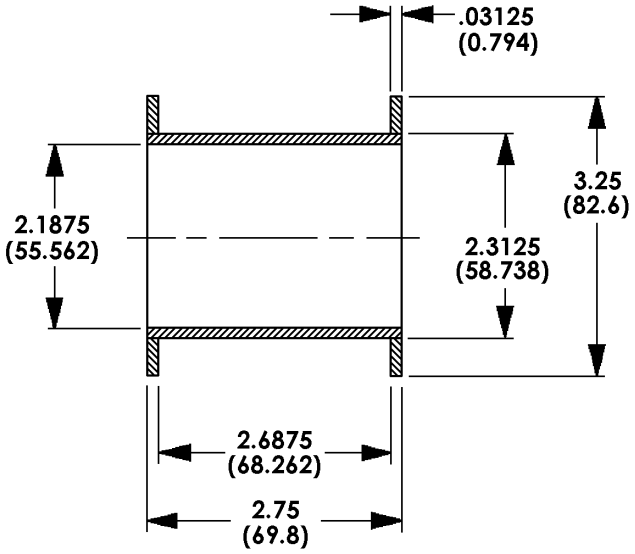
3.2.9 Certificate of compliance. A certificate of compliance shall be required from manufacturers requesting to be a suggested source of supply.

3.3 Marking. The finished coils shall be marked with the drawing PIN (see 1.2), manufacturer's PIN, and source code.

3.4 Workmanship. The coil shall be uniform in quality and free from any defects that will affect life, serviceability, or appearance.

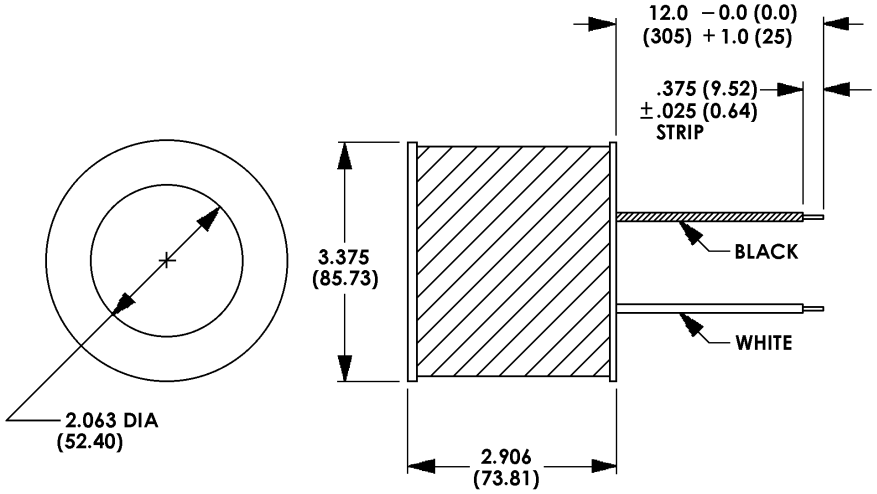
4. VERIFICATION

4.1 Sampling and inspection. Unless otherwise specified, sampling and inspection procedures shall be performed in accordance with group A inspections.



NOTES:
1. Dimensions are in inches.
2. Metric equivalents are in parentheses.
3. Metric equivalents are given for general information only.
4. This figure is for guidance only.
5. Unless otherwise specified, tolerance is ±.031 (0.79 mm).

FIGURE 1. Coil form (reference).



NOTES:
1. Dimensions are in inches.
2. Metric equivalents are in parentheses.
3. Metric equivalents are given for general information only.
4. Unless otherwise specified, tolerance is ±.031 (0.79 mm).

FIGURE 2. Coil dimensions.

4.1.1 Conformance inspection.

4.1.1.1 Group A inspection. Group A inspection shall consist of the inspections specified in table I in the order shown.

TABLE I. Group A inspection.

Inspection	Requirement paragraph	Verification level (VL) 1/	
		Major	Minor
Electrical characteristics	3.1	III	
Visual and mechanical examinations			
Material	3.2	III	
Dimensions	3.2.7	III	
Marking	3.3		II

1/ See table II attributes sampling plans, in MIL-STD-1916.

4.1.1.1.1 Sampling plan. Statistical sampling and inspection shall be in accordance with MIL-STD-1916 for normal inspection of variables. The Verification Level (VL) shall be as specified in table I. Major and minor characteristics shall be as specified in MIL-STD-1916.

4.1.1.1.2 Rejected lots. If an inspection lot is rejected, the contractor may rework it to correct the defects, or screen out the defective units, and resubmit for re-inspection. Resubmitted lots shall be inspected using the next larger verification level. Such lots shall be separate from new lots, and shall be clearly identified as re-inspected lots.

4.1.2 Certification. The contracting activity, at its discretion, may accept a certification of compliance with group A requirements in lieu of performing group A inspection (see 6.2).

4.1.3 Inspection of packaging. Unless otherwise specified (see 6.2), the requirements for inspection of packaging in accordance with MIL-PRF-15305.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

6.1 Intended use. Devices conforming to this drawing are intended for use when military specifications do not exist and when qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The contract or purchase order should specify the following:

a. Complete PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data with each shipment of parts by the manufacturer.

c. Whether the manufacturer performs the group A inspection or provides a certificate of compliance with group A requirements (see 4.1.2).

d. Requirements for notification of change in product to contracting activity, if applicable.

e. Requirements for packaging and packing (see 4.1.3 and 5.1).

6.3 Supersession data. Devices covered by this drawing will replace the same commercial device covered by contractor prepared specification drawing as specified in table II.

TABLE II. Supersession data.

DSCC drawing PIN 84184-	Vendor PIN		Vendor name and address
	CAGE	PIN	
01	30086	53267C00	SPD Technologies Incorporated 13500 Roosevelt Boulevard Philadelphia, PA. 19116

6.4 Suggested sources of supply. Suggested sources of supply are listed herein. Additional sources will be added as they become available. For assistance in the use of this drawing, contact Defense Supply Center, Columbus, ATTN: DSCC-VAT, Post Office Box 3990, Columbus, OH 43216-5000 or by telephone (614) 692-0729 or DSN 850-0729.

DSCC drawing PIN	Vendor similar designation or type number 1/	Vendor CAGE	Vendor name and address
84184-01	28636	07388	Torotel Products Incorporated 13402 South 71 Highway Grandview, MO 64030-3199
84184-01	14293	10581	Magnetico Incorporated 182 Morris Avenue Holtsville, NY 11742
84184-01	SR12420	21441	SR Engineering Incorporated 2268 South 3270 W. Sault Lake City, UT 84119
84184-01	84184	56662	Frequency Selective Networks, Incorporated 69-20 Garfield Avenue Woodside, N. Y. 11377-6007
84184-01	EM1712	63489	Electromech Incorporated 2 Cordier Street Irvington, N. J. 07111-4009

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

6.5 Users of record. Coordination of this document for future revisions are coordinated only with the suggested sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: Defense Supply Center, Columbus, ATTN: DSCC/VAT, Post Office Box 3990, Columbus, OH 43216-5000 or by telephone (614) 692-0729 or DSN 850-0729.